

THE PRODUCTION OF JETS FROM MAGNETIC ACCRETION DISKS:
SIMULATION OF THE BLANDFORD-PAYNE MECHANISM

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We have performed magnetohydrodynamic (MHD) simulations of the production of jets from magnetized accretion disks with a factor of 5 greater extent in space and time, and with more models, than any study published so far. We find that jets are produced by such disks in a broad range of parameter space, and by at least two different mechanisms. We also are able to follow the propagation of the jet well beyond the accretion disk into the region of hydrodynamic collimation. The code used is our MHD simulation code FLOW (K. Lind, D. Payne, D. Meier, and R. Blandford 1989), converted to run on Caltech's massively parallel Intel Touchstone Delta supercomputer. Some of these models may be directly applicable to observed radio sources.